

PACKET TAG FOR SUPPORT OF REMOTE NETWORK FUNCTION/ PACKET CLASSIFICATION

ABSTRACT OF THE DISCLOSURE

A method and system for creating an ethernet-formatted packet from an upstream DOCSIS packet. The upstream packet is first received along with packet characteristic data that is contained in physical layer prepend data and in the packet header. A packet tag is then created, based on the packet characteristic data. The packet characteristic data includes identifiers for the transmitting remote device and the channel over which the transmission is sent. Packet characteristic data also includes information about the physical characteristics of the transmission signal, such as the power level and time offset. The packet characteristic data also includes administrative information, such as the minislot count at which the packet is received and whether the packet was received in contention. The packet tag is appended to the payload of the upstream packet. Also appended to the payload is an encapsulation tag, and source and destination address headers. The result is a packet in an ethernet format. The resulting packet can therefore be sent using the ethernet protocol. The packet includes information that characterizes a DOCSIS packet. In a distributed cable modem termination system, this additional characterizing information can be used by processes further upstream, such as packet classification. An analogous operation can take place with respect to packets going downstream. Here, a DOCSIS packet is formed at an intermediate node, on the basis of a received ethernet-formatted packet.

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